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POLAR®

179351 USA C

E600

HEART RATE MONITOR

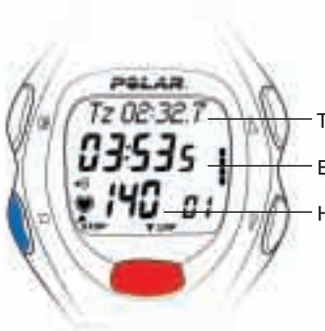
USA
USER'S MANUAL

POLAR®

HOW TO START THE E600 HEART RATE MONITOR

Start from the Time of Day screen.

Press and hold the red button.



Time in Target Zone
Exercise Time
Heart Rate

Measure Mode

HOW TO STOP THE EXERCISE & RECALL DATA FROM THE E600

Press 2x

Step 1:
After exercise press the BLUE button twice to stop recording.
Time of Day will appear.

Press 1x

Step 2:
Press the UPPER RIGHT button once.
Your screen will read FILE.

Press 2x

Step 3:
Press the RED button twice. Your screen will read In Zone.
The middle row will show the time you spent in your target zone.
The lower row will show your average heart rate during the exercise.

Press 1x

Step 4:
Press the UPPER RIGHT button.
Your screen will read Above, and you will see the time you spent above your target zone.

Press 1x

Step 5:
Press the UPPER RIGHT button.
Your screen will read Below, and you will see the time you spent below your target zone.

Press and hold

Step 6:
Return to Time of Day by pressing and holding the BLUE button.

ROAD MAP

A REFERENCE FOR THE ADVANCED USER

= One press of the red button. It allows you to enter modes.
= One press of the right side buttons.
These allow you to scroll through different screens.
= Press and hold the upper left button.
= At any point you can press the blue button to exit the displayed mode, or, you can press and hold it to get back to the Time of Day.

To Scroll Through Basic Modes

File ↔ Options ↔ Connect

To Set Exercise Functions

Options
↓↑
Exercise Set
↓↑
Limits ↔ Recovery ↔ Timer 1 ↔ (Timer 2)

To Set the Memory Function

Options
↓↑
Exercise Set ↔ Memory Set
↓
Recording Rate ↔ 5/15/60 seconds
↓
(To Confirm Selection)

To Set the Watch Functions

Options
↓↑
Exercise Set ↔ Memory Set ↔ Watch Set
↓↑
Time ↔ Date

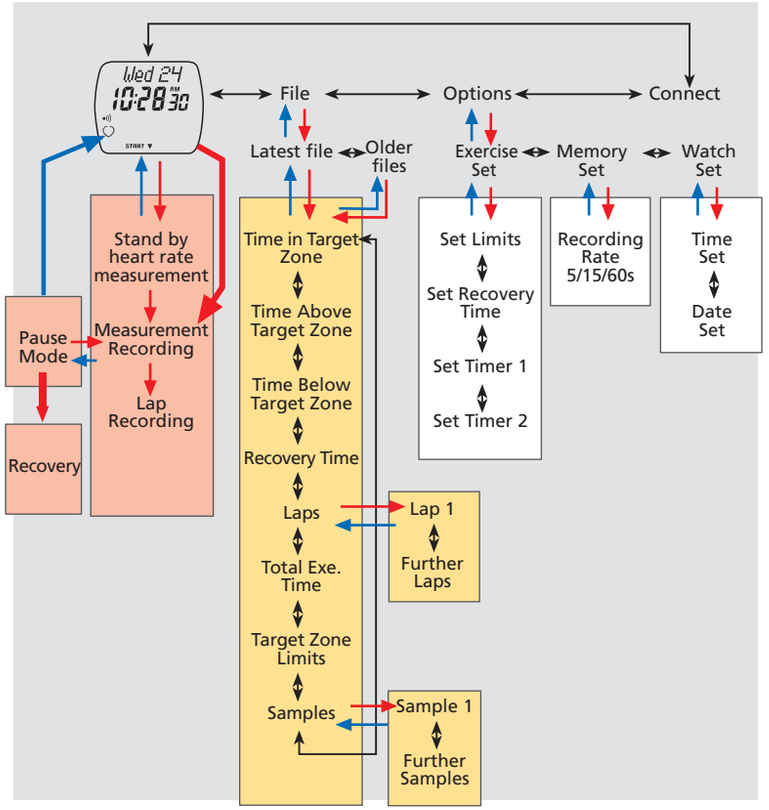
To Delete Files

File
↓↑
Delete File# ← Exercise File#
↓
(To Confirm Selection)

INTEGRATED ROAD MAP

A REFERENCE FOR THE ADVANCED USER

= Press and hold the red button.
= One press of the red button. It allows you to enter modes.
= One press of the right side buttons. These allow you to scroll through different screens.
At any point you can press the blue button to exit the displayed mode.



NOTE: Whenever you are in the File or Options mode, pressing and holding the blue button will bring you back to the Time of Day screen.

Introducing the E series

The Polar E Series of heart rate monitors (HRMs) was developed with feedback from teachers committed to providing the best possible physical education for their students – teachers like yourself. Combining this knowledge with the same technology we supply to both NASA and professional athletes, resulted in tools which will allow you to document your students' efforts, make objective assessments, and implement a program which will have the maximum positive effect on their health and fitness.

A note on the preprogrammed settings:
Your E Series HRM is preprogrammed for a fictional middle school student. These settings are not meant to be optimal for all children and all uses, but they will be fine for getting familiar with your monitor. As you read this manual, you will learn how to customize these settings to fit the goals of your program. For a list of these preprogrammed settings, please see the "Technical Specification" section at the back of this manual.

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A. YOUR E600 HEART RATE MONITOR

The Polar E600 heart rate monitor (HRM) consists of three parts:

1. The transmitter.
2. The elastic strap.
3. The wrist receiver (watch).

Functions of Buttons

Upper Left (Signal) Button:
Turns heart rate (HR) zone alarm on and off.
Accesses user name setting mode.

Reset Button:
Resets the heart rate monitor.

Blue Button:
Stops timer.
Exits the displayed mode.
Returns to the Time of Day screen.

Red Button:
Starts measurement of heart rate.
Locks in your selection.

Records laps.
Starts the recovery calculation.

Upper Right Button:
Advances through screens.
Increases the selected value.

Lower Right Button:
Moves backward through screens.
Reduces the selected value.

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B. QUICK GUIDE

Measuring and Recording Heart Rate, and Recalling Data

For complete instructions, please refer to pp. 30-37.

How to begin measuring heart rate using the default settings

1. Wet the electrodes on the transmitter and fit it around your chest (below the pectoral muscles and across the sternal notch). For best results, the transmitter should be in direct contact with the skin. (It may be possible to wear the transmitter over a t-shirt as long as the area under the electrodes is thoroughly wetted.) Put the receiver (watch) on your wrist.

Wet

2. From the Time of Day mode, press and hold the red button to start the heart rate measurement and recording. The stopwatch, displayed on middle line, will start and within seconds your heart rate will appear at the bottom. The top line of the display will calculate how much of your total elapsed exercise time you have spent in your target heart rate zone. The HRM will beep and the numbers on the lower line will flash if you are above or below the target zone settings.

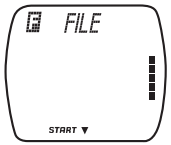
How to stop measuring heart rate

1. Press the blue button one time. Stopwatch and the recording stops but heart rate is still displayed. This is called the pause mode.

2. Press the blue button once more. The receiver returns to time of day.

How to recall data

Note: At anytime you can press and hold the blue button to return to the Time of Day display.



1. From Time of Day display, press the upper right button one time. "File" will appear.

2. Press the red button one time. The middle row will alternate between the exercise session's start date and time. The bottom row will identify the file with a number.

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3. Press the red button one time. The time in zone and average HR for the exercise will be displayed.
4. With each press of the upper right button, further data will be displayed in the following order: time above zone, time below, recovery time, laps, total exercise time, heart rate limits, heart rate samples. (Recovery time and laps are displayed optionally.)
5. To return to the Time of Day, press and hold the blue button.

Post Exercise Care

To keep your HRM in top working order, please follow these simple steps.

1. Wash the transmitter with a mild soap and water solution. Never use alcohol or alcohol based cleansers.
2. Rinse the transmitter with clean water.
3. Dry the transmitter before storing as this will help to extend the life of the battery.
4. The elastic strap can be machine washed in cold water with laundry detergent, and then hung up to dry.

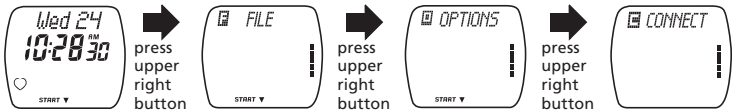
Modes and Their Functions

The Polar E600 HRM has different modes of operation accessible from the Time of Day display. Besides the Measure mode, which can be entered by pressing the red button, the other modes can be accessed by pushing the upper right button.

1. From the Time of Day screen, press the upper right button once and you will be at the beginning of the File mode. This is where you will recall all of the data.

2. Press it again and you will be at the Options mode. Entering this mode will allow you to set the functions of your HRM as well as time, date, etc.

3. Push the upper right button again and you will be at the Computer Connect mode. This mode will allow you to interface with your computer.



Note: Pressing the upper right button will advance you through this cycle of modes, while pressing of the lower right button will take you back to the previous mode. You can return to the time of day at anytime by pressing and holding the blue button.

Each of these primary modes contains a secondary level of information and settings. They can be entered by pushing the red button, and scrolled through by using the buttons on the right side. Below is a brief listing of the contents of each mode. They will be covered in detail, mode by mode, later in this manual.

File mode contains:
Recorded exercise information

Options mode contains:
Exercise Set, which contains:
- Limits
- Recovery calculation
- Timers 1 & 2

Memory Set, which contains:
- Recording rate

Watch Set, which contains:
- Time of day
- Date

Connect mode:
Allows you to interface with your computer.

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C. PROGRAMMING THE WRIST RECEIVER MANUALLY

Note: You can also upload settings from your computer as described in the E Series Software Manual. The software makes programming multiple HRM's simpler and quicker.

Programming the Wrist Receiver Manually, Options Mode

This section describes how to manually program your wrist receiver by pressing its buttons.

The Options mode is divided into three parts, which are then further subdivided:

1) **Exercise Set:** You will be able to set the target heart rate zone limits, the recovery calculation, and two independent timers.
2) **Memory Set:** You will be able to set the recording interval.
3) **Watch Set:** You will be able to set the correct time of day and date.

Note: Once you have set any of the features below, pressing and holding the blue button will bring you back to the Time of Day screen.

Exercise Set

The exercise setting loop is accessed from the Options mode. You can scroll through the setting loop by pressing either right side button. The red button will allow you to start programming, and then lock in your settings. Please see the directions below for complete instructions.

Programming the Target Heart Rate Limits

The E600 allows you to program an ideal heart rate zone within which your students can exercise. If a student goes above the upper limit or below the lower limit, the student will be alerted in two ways: the receiver will begin beeping and the heart rate display will flash.

1. From Time of Day display, press the upper right button two times. Your display will read,"OPTIONS".
2. Enter the Options mode by pressing the red button two times. Your display will read, "Limits", with two rows of numbers beneath it. These are the upper and lower limits of the zone.
3. Press the red button one time.
   The upper limit will begin to flash.
4. Press the upper right button to increase the value of this number or press the lower right button to decrease it.
5. Once you have reached the number you want, press the red button once to lock it in. The lower number will now begin to flash.
6. Press the upper right button to increase the value of this number or press the lower right button to decrease it.
7. Once you have reached the number you want, press the red button once to lock it in.
8. At this point you can either return to the Time of Day display by holding down the blue button, or you can begin to set the recovery calculation by pressing the upper right button. If this is your choice, begin with step 3 of the section on programming the recovery calculation, below.

Note: You can also deactivate the heart rate target zone. To do this, press and hold the upper left button when you are in the Limits display. The display will read, "OFF". The limits are now deactivated. If OFF is flashing, lock it in by pressing the red button. At this point, continue from step 8.
To reactivate the limits, enter the limits setting mode as described in steps 1-2. Press and hold the upper right button and the limits will appear.

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Finding the target heart rate zone.
To find the target heart rate zone for your students, you'll need to estimate their maximum heart rate (HR_{max}). To do this, use the following formula.

220 - the age of the student = _____ (HR_{max})

For the general activities of children, a zone of 70 to 85% of HR_{max} has a positive effect on their heart and aerobic fitness, without being too strenuous.

To find the correct zone:
.70 x HR_{max} = _____(lower limit)
.85 x HR_{max} = _____(upper limit)

Note: If you teach children of different ages, use the average to estimate their HR_{max}, as long as their ages do not vary by more than three or four years.

Programming the Recovery Calculation
The E600 will calculate how many beats your heart rate recovers (drops) in a given amount of time after exertion. The rate at which the heart can recover is a measure of one's fitness.

1. From Time of Day display, press the upper right button two times. Your display will read, "OPTIONS".
2. Enter this mode by pressing the red button twice and then press the upper right button once. The top line will read, "Recovery", with a timer in the middle and "On" or "OFF" at the bottom.
3. Press the red button once more and the bottom row will begin to flash.
4. Press either right side button to turn the recovery calculation on or off. (If you choose OFF, you will not be able to set time.)
5. Lock in this choice by pressing the red button. The upper line will now read, "RecoTime" and the minutes on the middle line will flash.
6. Using either button on the right will alter the value of this number. Lock in your choice by pressing the red button. The seconds will now begin to flash.
7. Using either button on the right will alter the value of this number.
8. Lock in your choice by pressing the red button.

At this point you can either return to the Time of Day display by holding down the blue button, or you can press the upper right button one time to set Timer 1. If this is your choice, begin with step 3 below.

Programming Timer 1 and Timer 2
Your E600 heart rate monitor comes with two interval timers. This feature can be used to alert your students to switch exercise stations or to go from warm up, to exercise, to cool down. If you are coaching athletes, you can use these timers to regulate the length of their hard efforts and the duration of their recovery in between.

Once set, the first timer will begin when the stopwatch is started in the measuring mode. When Timer 1 is finished the receiver will beep and Timer 2 will automatically start. When Timer 2 is finished the monitor will sound a different beep and Timer 1 will automatically begin again, and so on.

1. From the Time of Day display, press the upper right button two times. Your display will read, "OPTIONS".
2. Enter this mode by pressing the red button twice and then press the upper right button twice. The top line will read, "Timer 1", the middle will show a timer and "On" or "OFF" at the bottom.
3. Press the red button once more and the bottom line will begin to flash.
4. Press either right side button to turn the timer on or off. (If you set the timer off, you will not be able to set the time.)
5. Lock in this choice by pressing the red button. The minutes in the middle line will begin to flash.
6. Using either button on the right will alter the value of this number. Lock in your choice by pressing the red button. The seconds will now begin to flash.

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7. Using either button on the right will alter the value of this number. Lock in your choice by pressing the red button.
8. Now you can return to the Time of Day by holding down the blue button, or you can press the upper right button once to set Timer 2. This timer is set in exactly the same way as Timer 1. When you have set Timer 2, press and hold the blue button to return to the Time of Day.

Note: If Timer 1 is set to OFF, Timer 2 will not be displayed.

Memory Set

Programming the Heart Rate Recording Intervals

In the measure mode, your receiver will always display your current heart rate. But, depending on your needs, you can set it to record the heart rate at intervals of 5, 15 or 60 seconds. A longer interval will give you more recording time, but a shorter interval will allow you to capture more heart data in a given amount of time. The preprogrammed setting is 15 seconds.

Recording Interval	Maximum Recording Time
5 sec	22h 10 min
15 sec	66h 32 min
60 sec	99h 59 min

You can save up to 99 separate files but the ultimate number will be governed by the length of the file and the recording rate.

1. From the Time of Day display, press the upper right button two times. The display will read, “OPTIONS.”
2. Press the red button once and the upper right button one time. The display will read, “MEMORY SET.”

Note: In the lower right corner of the display you will see 5, 15, or 60. This is the number of seconds your receiver is currently set at to record.

3. Press the red button one time. You will see “Rec. Rate” on the upper line. The middle line will show the recording interval (either 5,15 or 60) followed by “Sec” for seconds. The lower line will show the amount of time left for recording.
4. On this screen, the only digits available for setting will be the number of seconds on the middle row (which are now flashing). You can adjust this value by using either of the right side buttons. Notice that as you change the recording interval the available memory, displayed on the bottom line, will shrink or expand.
5. Lock in your choice by pressing the red button.
6. You can return to the Time of Day by pressing and holding the blue button.

Watch Set

The Watch Set loop is accessed from the Options mode.

You can use it to set the correct time of day and date.

Programming the Time of Day

1. From Time of Day display, press the upper right button two times. Your display will read, "OPTIONS".
2. Press the red button once and the upper right button twice. Your screen will read, "WATCH SET".
3. Enter this mode by pressing the red button two times. "TIME" will be displayed on the top row. The middle line will show the default time of day and the number 12 or 24 will be flashing on the lower line. Your HRM comes preset for the standard U.S. 12 hour time clock. By pressing either button on the right side you can switch it to a twenty four hour (i.e., military time) clock. Whichever setting you select, press the red button one time to lock in your selection. If you have picked the 12 hour time clock, the am (or pm) will begin to flash.
4. By pressing either button on the right side, you can pick whichever is appropriate.
5. Press the red button once to lock in your choice and the hours will begin to flash.
6. Using either button on the right will alter the value of this number. Lock in your choice by pressing the red button. The minutes will begin to flash.

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7. Using either button on the right will alter the value of this number. Lock in your choice by pressing the red button.
8. Now you can return to the Time of Day by holding down the blue button, or you can press the upper right button to set the date. If you decide to set the date now, begin with step 4 below.

Programming the Date

1. From Time of Day display, press the upper right button two times. Your display will read, "OPTIONS".
2. Press the red button once and the upper right button twice. Your screen will read, "WATCH SET".
3. Press the red button once and the upper right button once. "DATE" will be on the top line and the lower line will show the month, day and year in numeric form.
4. Press the red button once and the month number will begin to flash.
5. Pressing either button on the right side will alter the month. Lock in your choice by pressing the red button. The day number will begin to flash.
6. Pressing either button on the right side will alter the day. Lock in your choice by pressing the red button. The year number will begin to flash.
7. Pressing either button on the right side will alter the year. Lock in your choice by pressing the red button.
8. Press and hold the blue button to return to the Time of Day.

Note: If you have chosen to keep time by using the 24 hour clock, the date will be presented in a different order. The order will now be day, month, year. Regardless of order, you can set the date by the directions above.

Manually Programming a User Name

In the Time of Day screen, you can choose between four alternatives in the top row. You can switch between them by pressing and holding the upper right button for each selection. Your choices are:

1. Date
2. User name (E600 as default, can be set as described below)
3. Monitor ID (set to zero by default, can be set via Computer Upload)
4. Logo (Polar logo as default, can be set via Computer Upload)

You can manually program a user name into your E600. For example, if you teach at George Washington Middle School, you might put "GWMS".

Note: You can also do this more quickly by uploading this data from your computer.

Programming a User Name

1. In the Time of Day screen, repeatedly press and hold the upper right button until "E600" appears on the top row. (It is right after the date display.)
2. Press and hold the signal button on the upper left side. Time of Day will disappear. You can now start setting the user name.
3. You can set the first character by scrolling with either button on the right side.
4. When you are satisfied with the character, you can lock it in with the red button. At this time the next character will begin to flash. Each character can be set in the same way.
5. When everything is set to your liking, you can lock in the entire user name by pressing and holding the blue button.

Note: If you have made a mistake, or if you want to change the entire user name, press and hold the blue button to get to the Time of Day, and start again from step one.

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D. COMPLETE GUIDE TO MEASURING HEART RATE

Measuring Heart Rate

1. With the transmitter on, from the Time of Day screen, press the red button one time. This will bring up the Stand By screen. On the top line, "Stand By" will alternate with the amount of recording time available on the wrist receiver. In the lower left corner a small heart will begin to flash and within fifteen seconds your heart rate will appear on the lower line. The middle line is for the stopwatch.

Note: The E600 will only record the heart rate when the stopwatch is running.

2. To start the stopwatch and begin recording, press the red button once more. The stopwatch in the center will show the elapsed exercise time. Notice that the upper row is labeled "Tz". This line will show the accumulated time that the student stays in his or her target zone.

Note: Step two can be rendered unnecessary if you so choose. From the Time of Day, simply press and hold the red button and the HRM will begin to record automatically. This is the quickest and easiest way to start a new recording.

Heart Rate Zone Alarms

Whenever your students go above or below their target zone, the E600 will alert them in two different ways. It will beep and the heart rate display will flash. These alarms are on automatically whenever a new heart rate recording is begun. The audio alarm is noted in the lower left side of the display by the symbol •)) .

3. If you would like to turn off the audible alarm, simply press and hold the signal button on the upper left side until you see the •)) disappear.

Toggling the Display on the Top Line between Lap Times and Time Spent in Target Zone

While recording, the upper line can show either the current lap time or the accumulated time spent in the target zone. (Regardless of which is displayed, both options will be recorded in the file.)

4. To switch the upper line, press the upper right button. The upper line will change to "Lp" for lap, followed by the lap time. To switch the upper line back to time in zone, simply push the upper right button again.

Recording of Laps

In the lower right hand corner you will see the word "LAP" with 01 beside it. This means that a lap has not been recorded separately from the total exercise time.

5. Whenever you want to record a lap, press the red button. The upper row will momentarily change to read "Lap Time" and the middle row will show the actual

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lap time. Then the upper row will momentary change to read, "Split Time," and the middle line will show the total exercise time elapsed. The lower line will show the average (avg) heart rate of the lap.
Each time this process is repeated, the lap counter in the lower right will advance by one.

The Heart Touch Function
Besides the information that can be accessed and altered by pressing the buttons on the wrist receiver, additional information can also be accessed by bringing the wrist receiver up to the transmitter on your chest.

Though no information will be lost, the display will show the time of day and the code on which the HRM is receiving.

After three seconds the display will change to show the target zone limits you programmed, and after another three seconds, the display will switch back to the normal heart rate measure screen.

The Exercise Pause Mode: Pausing the Recording
6. If you need to momentarily interrupt the recording, press the blue button one time. Notice that the timers are frozen but the lower line still reflects fluctuations in heart rate. This is called the Exercise Pause mode.

! **Note:** From the exercise pause mode, you have three options. First, you can resume the recording by pushing the red button. Second, you can start the recovery calculation (see step 7). Or thirdly, you can stop the recording altogether (see step 8).

Activating the Recovery Calculation
The recovery calculation can only be activated during the Exercise Pause mode.

7. To begin the recovery calculation, press and hold the red button until you hear a long beep and the upper line of the display reads, "RecoTime". Notice that the middle line will show a timer counting down to zero. You can program the amount of time in the Options mode. When this time is up, the lower line will momentarily show how many beats the student recovered, then it will switch back to his or her current heart rate. If there is not time to record the number of heart beats dropped, this information is stored and can be accessed in the File mode.

Restarting or Stopping the Recording
8. You can restart the recording with a quick push of the red button, or you can end the recording entirely by pressing the blue button. This will take you to the Time of Day.

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E. COMPLETE GUIDE TO RECALLING DATA FROM THE FILE MODE

The Polar E600 starts saving exercise information as soon as the stopwatch is started in the Measure mode. This data can be recalled in the File mode.

Each complete exercise file will contain the following information:

- start time and date of the exercise
- file number (E600 stores up to 99 files)
- average heart rate
- time in zone
- time above zone
- time below zone
- total exercise time
- heart rate samples

Optional file information includes:

- recovery calculation
- laps (E600 stores up to 99 laps)

If laps are recorded, the following information will be available for each lap: lap time and split time, heart rate at the end of the lap, average heart rate.

Data Recall:

1. From the Time of Day, press the upper right button one time. Your screen will read "File".

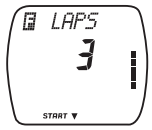
2. Enter this mode by pressing the red button one time. Exercise date and start time will alternate on the middle line. The file number will be displayed in the bottom. If this is the file you wish to enter, skip to step 3. But you can also choose to enter another file. If you press the lower right button, you will be able to access previously saved files. Pressing the upper right button will advance you through the files.

3. Press the red button one time. The amount of time spent in the target zone will be in the middle row and the average heart rate for the entire exercise will be at the bottom. If you have deactivated the target zone limits, the screen will display "OFF".

4. Press the upper right button one time. The time spent above the target zone will be displayed.

5. Press the upper right button one time. The time spent below the target zone will be displayed.

6. Press the upper right button one time. The screen will display the programmed recovery time and the number of beats your heart rate dropped. If no recovery was taken during the exercise, the device will skip over this screen.



7. Press the upper right button one time. The word “Laps” will be shown with the total number of laps recorded. If you have not recorded any laps, the lap screen will not appear and you can skip to step 11.

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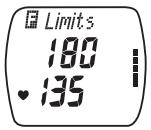
8. If you have recorded laps in the course of the exercise, you can begin recalling them by pressing the red button. The top line will show the split time and the middle line will show the lap time. The lower line will show alternating heart rate information. The average heart rate for the lap will be identified by a small "avg". When this notation disappears, the heart rate at the end of the lap will be displayed. Finally, in the lower right hand corner the number of the lap can be seen.

9. Each time the upper right button is pushed the next lap will be displayed.

10. To get out of the Laps recall, press the blue button one time. "Laps" will be displayed again and you will be back at step 7.

11. Press the upper right button one time and the total exercise time ("Exe.Time") will be displayed.



12. Press the upper right button one time and the target zone limits for that exercise will be displayed. If you have set target zone limits to off, the screen will display "OFF".

13. Press the upper right button one time. The number of recorded heart rate samples will be displayed.
14. You can begin recalling the samples by pressing the red button. The middle line will show the time when the sample was recorded. The bottom line will show the heart rate. Press the upper right button to advance through the samples.
15. Press the blue button to exit the samples recall.
16. If you press the upper right button again, you can view all the information in the File mode once more.
17. Press and hold the blue button to return to the Time of Day.

! **Note:** You can reverse through the order of screens by pressing the lower right button.

Deleting Files

Deleting files one at a time

1. From the Time of Day, press the upper right button one time so that "File" is displayed.
2. Press the red button one time to enter the file recall.
3. The last file you recorded will be displayed on the bottom row. If you would like to delete this file go on to step 4. If you'd like to delete a different file, select it by using the buttons on the right side. When proper file number is displayed, go onto the next step.
4. To delete the displayed file, press and hold the upper left button. "Delete FILE" and the file number will be displayed.
5. Press the red button. The display will read, "Are you sure?", asking you for a confirmation. Press the red button again to delete the selected file. If you do not want to delete the file, pressing the blue button will take you back to the previous display.
6. Press the blue button. "Wait..." is displayed while the receiver reorganizes your files.
7. Press the blue button once more to bring you back to the Time of Day screen.

Deleting all files at once

1. From the Time of Day mode, press the upper right button one time so that "File" is displayed.
2. Press and hold the upper left button. "Delete FILEs" will flash on and off.
3. Press the red button and the screen will display "Are You Sure," asking you for a confirmation. If you do not want to delete all the files, press the blue button to take you back to the previous display. But if deleting all the files is your intention, pressing the red button once more will delete them.
4. Press and hold the blue button to bring you back to the Time of Day screen.

! **Note:** If the stopwatch will not start in the Measure mode, it means that there is no more recording space left on the receiver. If you wish to save any of the information, download the files and start deleting the ones that are no longer necessary to keep on the receiver.

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F. CARE AND MAINTENANCE

Your Polar heart rate monitor is a high-tech instrument of superior design and workmanship and should be treated with care. The suggestions below will help you fulfill the guarantee obligations and enjoy this product for many years to come.

Taking Care of Your Polar Heart Rate Monitor

- Wash the transmitter regularly after use with a mild soap and water solution. Dry it carefully after washing with soft towel.
- Wash the elastic strap in cold water and detergent and then hang it up to dry.
- Never store the transmitter wet. Sweat and moisture can keep its electrodes wet and the transmitter activated, which shortens the battery life.
- Store your Polar heart rate monitor in a cool and dry place. Do not store it in any kind of non-breathing material, such as a plastic bag or a wet sports bag.
- Do not bend or stretch the transmitter. This can damage the electrodes.
- Do not dry the transmitter in any other way than with a towel. Hard-handed handling can damage the electrodes.

- Keep your Polar heart rate monitor out of extreme cold and heat. The operating temperature is 14 °F to 122 °F/ -10 °C to 50 °C.
- Do not expose the Polar heart rate monitor to direct sunlight for extended periods, such as by leaving it in a car.

Service

Should your Polar heart rate monitor need service, see Customer Care Charter to contact an authorized Polar Service Center.

Guarantee does not cover damage or consequential damage caused by service not authorized by Polar Electro Inc.

Batteries

Polar Coded Transmitter

The estimated average battery life of the Polar coded transmitter is 2500 hours of use. Contact the Polar Education Division for a transmitter replacement. Polar recycles used transmitters and properly disposes the lithium batteries. See your Customer Care Charter for detailed instructions.

Polar E600 Wrist Receiver

The estimated average battery life of the Polar E600 wrist receiver is 2 years in normal use (2h/ day, 7 days a week). To ensure the water resistance properties and the use of qualified components, we recommend having all service done by an authorized Polar Service Center. At the same time, a full periodic check of the Polar heart rate monitor will be done. However, if you wish to have your receiver serviced locally, or to replace the battery yourself, keep in mind that water resistance cannot be guaranteed after unauthorized service. Your receiver may leak if submerged in water.

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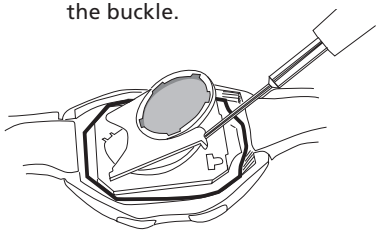
Battery Replacement

We recommend having all the service done by an authorized Polar Service Center. However, if you wish to change the battery yourself, please follow these instructions.

Note: If you use your Polar heart rate monitor in water, the rubber gasket seal that ensures water resistance may have to be replaced and the unit should be tested for water resistance every time the seal is broken. If an unauthorized service agent services the heart rate monitor, or if you change the batteries yourself, Polar guarantee does not cover damage or consequential damage that may occur.

You will need the following:
Battery: CR 2430 3V
Dust-free pad that won't scratch the face of the wrist receiver
Small Phillips or standard head screwdriver

1. Put the unit on the clean, dust-free pad, face down.
2. Open the back by removing the four screws with the screwdriver. Do not turn the unit upside down to remove the back, doing so will spill out the contents.
3. Remove the back by pressing lightly on one of its corners, the opposite corner will be raised enough to lift off the cover.
4. Leave the orange-colored gasket in its groove, or, if it is separated, be careful not to twist it or damage it.
5. Remove the black plastic piezo case by gently inserting the tip of the screwdriver into the slot at the upper right corner, and gently pulling it in the direction of the wrist strap without the buckle.

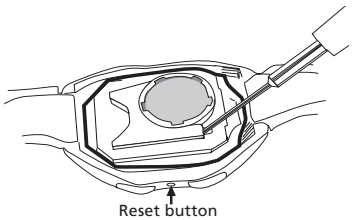


6. Take off the piezo case, exposing the battery.

Do not handle the battery with metal tweezers because this could short it out.
Also, naturally occurring oils on your fingers will shorten battery life and could weaken the contact. Make sure your hands are freshly washed, and handle the battery only from its sides.

7. Remove the old battery, and put in the new one with + side up.
8. Replace the black plastic piezo case.
   Holding it at a slight angle, insert the piezo case's two 'feet' into the bottom slots in the metal case that also holds the battery.

Gently press down on the piezo case's top, then with the screwdriver, push on the tab at the upper right corner while applying downward pressure at the top to secure the piezo case into the metal case (you will hear a click). This will lock it into place.



9. Make sure the gasket ring is not damaged, and is fully in its groove.

TIP: You'll notice the ring follows the pattern of the groove. Just line it up, and let it slip into place.

10. Wipe off finger prints on the module and clean the surface of the back cover facing the sealing ring with a soft, lint free cloth.
11. Replace the back cover - The Polar text is in the upright position, in respect to the buckle side of the wrist strap.
12. Replace screws, but do not fully tighten. Insert screws in opposite corners, slightly tightening each one in a crosshatch pattern - upper right, lower left, upper left, lower right and so on.
13. Push in the reset button with your screwdriver so that you see all the characters on the face light up. Then press any other button and you should see the Time of Day screen.
14. Wearing the Polar transmitter, test functions by activating the receiver, and re-set your settings.

If heart rate measurement does not start or all segments do not appear to be operating normally, reset the receiver and test again. If this does not resolve the problem, return the unit to an authorized Polar Service Center.

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G. PRECAUTIONS

Using the Polar E600 in a Water Environment
The Polar E600 is water resistant to 160 feet/50 meters.
Heart rate measurement in a water environment is technically demanding for the following reasons:

- Pool and salt water can be very conductive and may short circuit the electrodes so that EKG signals cannot be detected by the transmitter.
- Jumping into the water or strenuous muscle movement during competitive swimming may cause the transmitter to slip out of place.
- The EKG signal strength varies depending on the individual's tissue composition. The percentage of people who have problems in heart rate measuring is considerably higher in a water environment than in other use.

Polar Heart Rate Monitor and Interference

Electromagnetic Interference
Disturbances may occur near high voltage power lines, traffic lights, overhead lines of electric railways, electric bus lines or trams, televisions, computers, cars, electric motors, bike computers, some motor driven exercise equipment, cellular phones, antennas, invisible fences, or when you walk through electric security gates. Interference or "crosstalk" can also be caused by the heart rate signal from another Polar HRM wearer. Please see Chapter I, ´Frequently asked questions´ for possible solutions.

Exercise Equipment
Several pieces of exercise equipment with electronic or electrical components such as LED displays, motors and electrical brakes may cause interference with the heart rate signal. To solve these problems, relocate the Polar wrist receiver as follows:

1. Remove the transmitter from your chest and use the exercise equipment as you would normally.
2. Move the wrist receiver around until you find an area in which it displays no stray reading or flashing of the heart symbol. Interference is often worst right in front of the display panel of the equipment, while the left or right side of the display is relatively free of disturbance.
3. Put the transmitter back on your chest and keep the wrist receiver in this interference-free area as much as it is possible.
4. If the Polar heart rate monitor still does not work with the exercise equipment, this piece of equipment may be electrically "too noisy" for wireless heart rate measurement.

Minimizing Possible Risks in Exercising with a Heart Rate Monitor

Exercise may include some risk, especially for those who have been sedentary. Before starting a regular exercise program an individual is recommended to answer to the following questions for health status checking. If the answer is yes to any of the questions, we recommend to consult a doctor before starting an exercise program.

- Have you not exercised for the past 5 years?
- Do you have high blood pressure?
- Do you have high blood cholesterol?
- Do you have symptoms of any disease?
- Are you taking any blood pressure or heart medication?
- Do you have a history of breathing problems?
- Are you recovering from a serious illness or medical treatment?
- Do you use a pacemaker or another implanted electronic device?
- Do you smoke?
- Are you pregnant?

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Note that in addition to exercise intensity, medications for heart, blood pressure, psyche, asthma, breathing etc. as well as some energy drinks, alcohol and nicotine, can affect heart rate.

It is important to be sensitive to your body's reactions during exercise. If you feel unexpected pain or excessive fatigue when exercising, it is recommended to stop the exercise or continue at a lighter intensity.

Notice to persons with pacemakers, defibrillator or other implanted electronic device. Persons who have a pacemaker use the Polar Heart Rate Monitor at their own risk. Before starting use, we always recommend an exercise test under doctor's supervision. The test is to ensure the safety and reliability of the simultaneous use of the pacemaker and the heart rate monitor.

If you are allergic to any substance that comes into contact with the skin or if you suspect an allergic reaction due to using the product, check the listed materials in the "Technical Specifications" chapter. To avoid any skin reaction risk with the transmitter, wear it over a shirt. However, moisten the shirt well under the electrodes to ensure flawless operation.

! The combined impact of moisture and intense abrasion may cause a black color, which might stain light-colored clothes especially, to come off the transmitter's surface.

H. FREQUENTLY ASKED QUESTIONS

What should I do if...

...I don't know where I am in the Options or File cycle?
Press and hold the blue button until Time of Day is displayed.

...I cannot find the previous exercise file?
You may have used the Stand By mode during your exercise, which means that your exercise was not stored. To record the exercise you have to turn the stopwatch on by pressing the red button in the Stand By mode.

...there is no heart rate reading (- -)?
1. Check that the electrodes of the transmitter are moistened and that you are wearing it as instructed.
2. Check that you have kept the transmitter clean.
3. Check that you are not near other people that have heart rate monitors, high voltage power lines, televisions, mobile phones or other sources of electromagnetic disturbance.
4. Have you had a cardiac event which may have altered your EKG waveform? In this case consult your physician.

...the code search was not successful?
The frame around the heart symbol will disappear. Bring the receiver up to your chest near the transmitter's Polar logo. The receiver starts looking for a heart rate signal again. If you still do not succeed in code searching, but your heart rate is displayed and the heart symbol without a frame is flashing, you can start exercising but your wrist receiver may become disturbed by other heart rate monitors.

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...heart symbol flashes irregularly?

1. Check that the wrist receiver is not further than 3 feet/1 meter from the transmitter.
2. Check that the elastic strap is snug (but it doesn't need to be overly tight).
3. Make sure that the electrodes of the transmitter are moistened.
4. Make sure that there is no other heart rate transmitter within 3 feet/1 meter.
5. Cardiac arrhythmia may cause irregular readings. In this case consult your physician.

...another student with heart rate monitor is causing interference?

Your training partner may have exactly the same code as you. In this case proceed as follows: Keep a distance from your training partner and continue your training session as before.

Or

1. Take the transmitter off your chest for 30 seconds. Keep a distance from your training partner.
2. Put the transmitter back and bring the receiver up to your chest near the transmitter's Polar logo. The receiver starts looking for a heart rate signal again. Continue your training session as before.

...heart rate reading becomes erratic or extremely high?

You may have come within range of strong electromagnetic signals which cause erratic readings. Check your surroundings and move further away from the source of disturbance. Interference is much more likely if the HRM is receiving a non-coded heart rate signal. In the Measure mode, look at the heart in the lower left corner. A heart with the frame ♡ indicates coded transmission of heart rate. A heart without a frame ♥ indicates a non-coded transmission. If non-coded, move away from the disturbance and take the transmitter off your chest for 30 seconds, and start your exercising again.

...the display is blank or fading?

If the display is blank, activate the wrist receiver by pressing the OK button twice, after which the Time of Day display appears. The first sign of a discharged battery is the battery symbol on the display. Have the batteries checked.

...there are no reactions to any buttons?

Reset the heart rate monitor. The RESET button is a small recessed button, located on the left side of receiver. Your watch settings will revert back to the factory defaults, but all other settings and the latest exercise file will be saved.

1. Press the RESET button with a pen tip. Display will become full of digits.
   If you don't press any button after reset, within one minute the wrist receiver will automatically go to the time of day display.
2. Press any of the buttons once. The Time of Day is displayed.

...the battery of the wrist receiver must be replaced?

We recommend having all service done by an authorized Polar Service Center. This is especially necessary to ensure the guarantee remains valid and is not affected by incorrect repair procedures done by an unauthorized agent. Polar Service will test your wrist receiver for water resistance after battery replacement and make a full periodic check of the complete Polar heart rate monitor.

However, if you wish to change the battery yourself, please follow the instructions in the Care and Maintenance section of this manual.

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I. TECHNICAL SPECIFICATION

Polar heart rate monitors are designed to indicate the level of physiological strain and intensity in sports and exercise. No other use is intended or implied. Heart rate is displayed as number of heartbeats per minute (bpm).

Polar Transmitter

Battery type:	Built-in Lithium Cell
Battery life:	Average 2500 hours of use
Operating temperature:	14 °F to 122 °F/ -10 °C to +50 °C
Material:	Polyurethane
Waterproof	

Elastic Strap

Buckle material:	Polyurethane
Fabric material:	Nylon, polyester and natural rubber including a small amount of latex

Wrist Receiver

Battery type:	CR 2430
Battery life:	Average 2 years (2h/day, 7 days/week)
Operating temperature:	14 °F to 122 °F/ -10 °C to +50 °C
Water resistance:	to 160 feet/50 meters
Wrist strap material:	Polyurethane
Back cover and wrist strap buckle material:	Stainless steel complying with EU Directive 94/27/EU and its amendment 1999/C 205/05 on the release of nickel from products intended to come into direct and prolonged contact with the skin.

Watch accuracy better than ± 0,5 seconds/day at 77 °F/ 25 °C temperature.
Polar E600 is a Class 1 Laser Product.
Accuracy of heart rate measurement: ± 1% or ± 1 bpm, whichever larger, definition applies to steady state conditions.

Default Settings

Time of day	12h
User ID	0
Activity sound	On
Timers 1 and 2	Off/ 2 min
Limits	On
Limits Low / High	135/180
Recovery timer	Off
Recovery time	1 min
HrAlarm	On
Recording rate	15 s

Limit Values

Exercise time	99 h 59 min 59 s
Heart rate limits	30-240
Recovery time	59 min 59 s
Laps recorded on the memory	99

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J. LIMITED POLAR INTERNATIONAL GUARANTEE

- This limited Polar international guarantee is issued by Polar Electro Inc. for the consumers who have purchased this product in the USA or Canada. This limited Polar international guarantee is issued by Polar Electro Oy for the consumers who have purchased this product in other countries.
- Polar Electro Inc. / Polar Electro Oy guarantees to the original consumer/ purchaser of this product that the product will be free from defects in material or workmanship for two years from the date of purchase.
- **Please keep the receipt or International Guarantee Card, which is your proof of purchase!**
- The guarantee does not cover the battery, damage due to misuse, abuse, accidents or non-compliance with the precautions; improper maintenance, commercial use, cracked or broken cases.
- Guarantee does not cover any damage/s, losses, costs or expenses, direct, indirect or incidental, consequential or special, arising out of, or related to the product. During the guarantee period the product will be either repaired or replaced at an authorized service center free of charge.
- This guarantee does not affect the consumer's statutory rights under applicable national or state laws in force, or the consumer's rights against the dealer arising from their sales/ purchase contract.

CE 0537 This CE marking shows compliance of this product with Directive 93/42/EEC.

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K. DISCLAIMER

- The material in this manual is for informational purposes only. The products it describes are subject to change without prior notice, due to the manufacturer's continuous development program.
- Polar Electro Inc. / Polar Electro Oy makes no representations or warranties with respect to this manual or with respect to the products described herein. Polar Electro Inc. / Polar Electro Oy shall not be liable for any damages, losses, costs or expenses, direct, indirect or incidental, consequential or special, arising out of, or related to the use of this material or the products described herein.

This product is protected by one or several of the following patents:
FI 88223, DE 4215549, FR 92.06120, GB 2257523, HK 113/1996, SG 9591671-4, US 5491474, FI 88972, DE 9219139.8, FR 92.09150, GB 2258587, HK 306/1996, SG 9592117-7, US 5486818, FI 96380, US 5611346, EP 665947, DE 69414362, FI 68734, DE 3439238, GB 2149514, HK 812/1989, US 4625733, FI 100924, FI 100452, US 5840039, FI 4150, DE 20008882.3, FR 0006504, FI 4069, US 6272365, FR 9907823, GB 2339833, DE 29910633, FI 104463, US 6183422, FI 4157, DE 20008883.1, FR 0006778, WO 97/33512, GB 2326240.
Other patents pending.

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L. POLAR GLOSSARY

Coded heart rate transmission: Polar coded transmitter automatically locks in a code to transmit your heart rate to the wrist receiver. In a coded transmission the receiver accepts heart rate data only from the coded transmitter. Coding significantly reduces crosstalk caused by other users of heart rate monitors. However, it does not necessarily reduce all environmental interference.

Configuring the display: During the exercise you can modify two display options by selecting information to the upper row.

Electrodes: The grooved areas of the transmitter, against the skin, that pick up the heart's electrical signal.

Exercise Pause Mode: Pausing the exercise recording by pressing the blue button once.

File: Presents the main information of your exercise.

Interval training: Seeks to improve your race pace with different periods of work and rest.

Measure mode: The stopwatch is on and your exercise is recorded.

Stand By mode: Measuring your heart rate without recording the exercise.

Target heart rate zone: The area between the upper and lower target heart rate limits. Target zone selection is based on personal fitness goals.

Display Symbols

♥ Indicates an ongoing heart rate measurement and flashes to the beat of your heart. A heart without frames indicates a non-coded heart rate transmission.

♥ Frame around the heart indicates a coded transmission of heart rate.

00 Indicates there has not been heart rate reception for less than 5 minutes.

-- Indicates there has not been heart rate reception for at least 5 minutes.

•)) Measure mode: beeps if you are exercising outside your target heart rate zone.

▲ Exercise mode: indicates the heart rate above the target zone.

▼ Exercise mode: indicates the heart rate below the target zone.

The graphic bar consists of five blocks. A flashing block indicates in which level you are in the Options settings or File recalling loops. Continuously running bars indicate that the exercise is recorded.

▭ Indicates low battery.

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Display Texts

AM or PM: Are used in 12h time mode. E.g. in 24h time mode 13:00 means 1:00 PM.
AVG: Together with a reading indicates average heart rate.
COM: Indicates that information is being transferred between computer and wrist receiver.
CONNECT: This mode allows you to interface with your computer.
Exe. Time: Exercise duration
FILE: Indicates the file mode.
InZone/Above/Below: Indicate the time spent within, above and below the target zone.
Infrared: Transfer of information between computer and wrist receiver using infrared communication.
LAP FULL: After having stored 99 laps FULL appears in the display. You can continue taking lap times but they won't be recorded into the file.
Lap Time: Indicates the time spent on a recorded lap.
Laps: Indicates how many lap times have been stored.
Lim High: The upper heart rate limit of the target zone.
Lim Low: The lower heart rate limit of the target zone.
Limits: Heart rate limits of the target zone.
Lp: Together with a reading indicates the time spent on the current lap.
MEM FULL: Indicates that your exercise time has exceeded 99 h 59 min 59 s and the memory is full.
OPTIONS: Indicates the Options mode.
Recovery, RecoTime: You set the recovery time in the Options mode. In the File mode you will see the drop in your heart rate and the recovery duration.
Split Time: The elapsed time from the beginning of the exercise until the storing of the lap.
Stand By: In this screen heart rate is being measured but the stopwatch is not running.
Timer 1, 2: Interval Training mode: Countdown timers for the Interval Training set.
Tz: Together with a reading indicates time spent in the target zone.
UpLink: Transfer of settings from your computer to the wrist receiver using Audible UpLink.

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